Role of Foreign Private Investment and Remittance in Stock Market Development: Study of South Asia

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Role of Foreign Private Investment and Remittance in Stock Market Development: Study of South Asia

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Abstract

This paper is an effort to study the role of foreign private investment and foreign remittance in the stock market development of three major South Asian Countries i.e. Pakistan, India and Bangladesh. Secondary data maintained by World Bank of 24 years from 1988-2011, are analyzed using E-view software. The dependent variable is stock market development (Market Capitalization) and the three independent variables are foreign remittance, foreign portfolio investment and FDI inflow. The stationarity of data is checked through ADF and PP tests. Correlation and co-integration tests are used. Further to check cause and effect relationship the Granger causality tests is used. The correlation results show that stock market development is correlated with FDI inflow, Portfolio Investment and foreign remittance respectively in all countries except negative correlation of 10.59 % between stock market development and Portfolio Investment in Bangladesh. The Granger Causality Tests result shows that FDI granger cause capitalization for India only. Capitalization granger causes FDI in Pakistan and India only. Portfolio investment granger causes in Pakistan and India only while Capitalization granger causes portfolio investment only in India. Foreign remittance granger causes capitalization for Bangladesh and India while Capitalization granger causes foreign remittance in Bangladesh.

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Key words: Foreign Private Investment, Foreign Remittance, Foreign Direct Investment (FDI), Stock Market Development, Foreign Portfolio Investment (FPI), South Asia
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1. Introduction

The stock market is considered as the economic face of any country. It is a platform where securities such as common shares, preference shares and bonds etc. are bought and sold. It is also a source of raising equity financing by corporate entities from the general public. It is also a medium of investment by foreign investors in the shape of portfolio investment. It

facilitates foreign direct investment inflow in the shape of acquisition or listing of new entity. It provides an opportunity to those individuals who live abroad and want to invest in their home country. It provides liquidity and diversifies risk which ultimately strengthens investor confidence in the economy of the country. It helps to allocate capital by the corporate sector which ultimately boosts economic activities in the country. Therefore, stock markets play a key role in the development of the economy. Stock market development may be influenced by many factors. These factors may be classified into two main categories i.e. domestic and foreign factors. However, this paper exclusively focuses on foreign factors. These foreign factors include FDI inflow, foreign portfolio investment and worker's remittance.

Foreign investors invest in the shape of foreign private investment while nationals residing abroad are interested in investing in their home country through foreign remittance. Foreign Private Investment can be divided into two forms viz., FDI inflow and foreign portfolio investment. In developing countries like Pakistan, FDI inflow is one of the major investment inflows which also contribute to technology transfer, development of human capital and skills. Such FDI inflow is considered as long term investment in a country while portfolio investment is a short term investment especially in the stock market. Foreign remittance to the home country helps to enhance living standard of the family of expatriate worker while the surplus funds can be invested. Therefore, FDI inflow, foreign remittance and portfolio investment by foreign firms and individuals play an important role in stock market development.

South Asia is one of important region of World. In South Asia, financial markets are experiencing exponential growth. Some major and emerging stock markets are located in this region. Various South Asian countries introduced major reforms which boosted the growth of their stock markets. South Asia is one of those regions which attract huge investments from foreign investors. For this study, three major countries of South Asia i.e. Pakistan, India and Bangladesh are selected. Pakistan has three stock exchanges namely, Lahore, Karachi and Islamabad. Karachi Stock Exchange is the largest and oldest stock market of Pakistan. It was declared as the "Best Performing Stock Market of the World for the year 2002" by Business Week. Approximately, as on 31st December, 2011, about 638 companies were listed with KSE. KSE 100 Index is one of the leading and more prominent index of Pakistan. Chittagong Stock Exchange (CSE) and Dhaka Stock Exchange (DSE) are two stock exchanges of Bangladesh. National Stock Exchange of India (NSE) and Bombay Stock Exchange (BSE) are two prominent stock exchanges of India.

The objective of this paper is to study the role of foreign remittance, foreign portfolio and FDI inflow in the development of stock markets of South Asia and compare the role of these factors in this region. Stock exchanges attract investors and ultimately the economy grows. Knowledge of the relationship among the three independent variables i.e. foreign portfolio, FDI inflow and foreign remittance and the dependent variable stock market development will help to strengthen financial systems and economic growth. Different markets react differently toward investment inflow and it is important to know the reasons for the variations. In developing countries like South Asian countries, foreign investment and remittance can play an important role in developing of stock markets and ultimately this improves economic growth. Foreign investments in these countries can generate employment, improve living standards, helping transfer of technology and most importantly reduce poverty.

It is important to study the role of foreign factors viz., foreign portfolio investment, FDI inflow and foreign remittance affecting the stock markets of South Asia. The governments of these countries are making efforts to enhance foreign investment and remittance in their country. Governments are also introducing tax amnesty schemes and different promotional schemes to boost investment in the country. Stock markets play an important role in attracting these foreign private investments and remittances. A recent study by Raza, Iqbal, Ahmed, Ahmed and Ahmed (2012) revealed that the stock market is an important element in the financial system of the country and a strong stock market is vital for the country's growth and financial development. Figure 1 shows graphs of market capitalization, FDI inflow, portfolio investment and foreign remittance of Pakistan, India and Bangladesh.

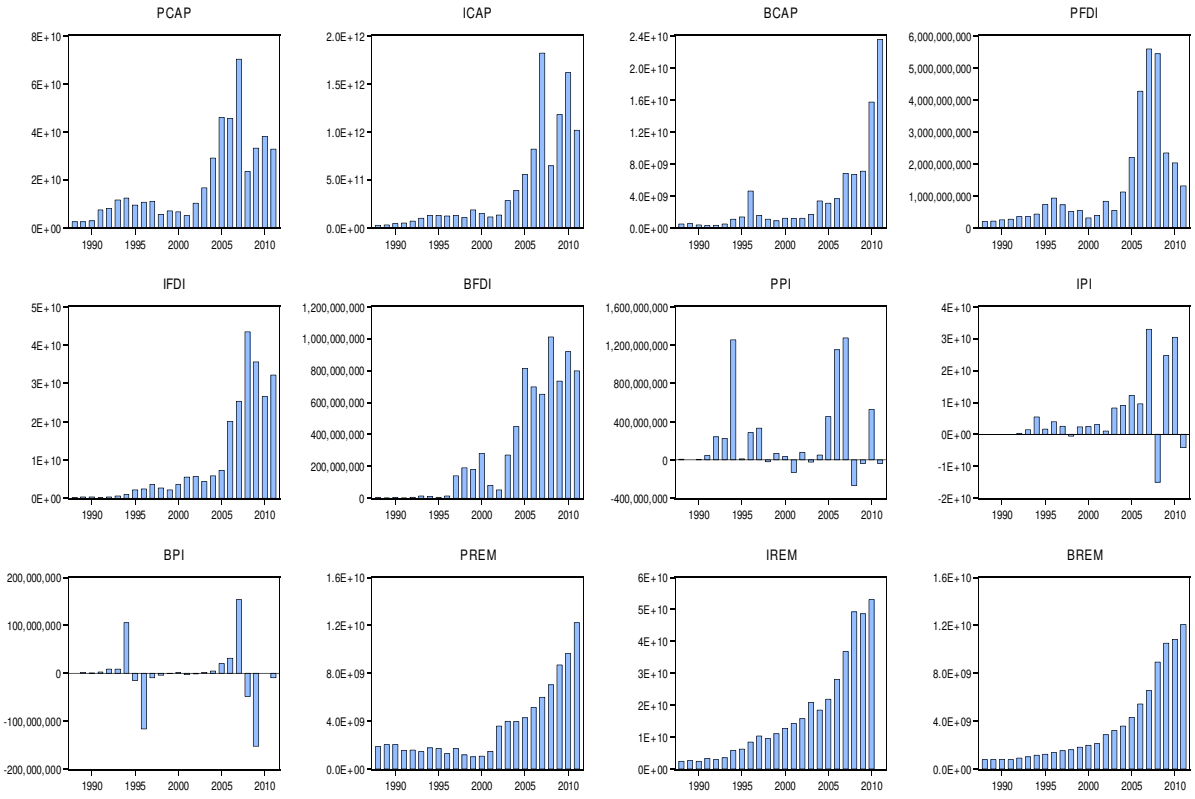

Figure- 1: graph of Capitalization, FDI inflow, PI and Remittance

A brief introduction, motivation, background and objectives of the research paper are given in the above section 1; the remaining paper is planned as follows: Section 2 includes a literature review, theoretical framework and hypothesis formation; section 3 explains the research methodology used in the study; section 4 includes results from different methods with the interpretation and discussion by comparing the results with other studies and section 5 provides a conclusion of the research paper.

2. Literature Review

2.1 Short Literature Review

Foreign Private Investment can be defined as investment by foreign individual or firms in the host country to gain advantages of globalization. Foreign Private Investment can be divided into two forms viz. FDI inflow and portfolio investment. The World Bank, (2003) defined foreign direct investment (FDI) as "the flow of capital in terms of equity financing from abroad being not less than 10 percent of the share in a business activity". Therefore, the flow of capital less than 10 percent of the share in a business activity may be considered as portfolio investment. In developing countries like Pakistan, there is a problem of shortage of capital available for investment in areas of production, human resource and technology. Abzari, Zarei and Esfahani (2011) claimed that this problem is an obstacle in economic prosperity and job creation. Therefore, they consider foreign investment as a key solution of these problems.

The results of Abzari et al. (2011) supported the idea that FDI inflow has a positive impact on the stock market development. A recent study by Raza et al. (2012) also claimed that foreign direct investment plays an important role in a development of the stock market in Pakistan. The stock market boosts economic activities in country. However, on the other hand, Anyanwu, (2012) highlighted an important contradiction in their results that there is a negative relationship between financial development and FDI inflow. He termed FDI as a substitute of stock market development and claimed that low development of stock markets create an opportunity for FDI inflow.

Ojo (2012) claimed that FDI inflow improved the capital market of Nigeria and found a positive impact of FDI inflow on stock market in the short run only as he did not find supporting evidence in the long run in Nigeria due to oil and gas sector specific investment which distorted the outcome. Contrary to that, Adam and Tweneboah (2008) found a long-run relationship between stock market development and FDI in Ghana. They claimed that the stock market plays an intermediary role in attracting foreign investment. Sultana and Pardhasaradhi (2012) also found a strong positive correlation between the stock market of India (Sensex & Nifty) and FDI. They also highlighted the fact that besides capital provision, FDI inflow also contributed to better governance and management.

The less than 10 percent flow of capital of the share in a business activity may be considered as portfolio investment. Sultana and Pardhasaradhi (2012) revealed that this type of investment is mainly injected through the stock market and enhances general availability of capital in the stock market. However, this type of investment is more volatile than FDI. They found a moderate correlation between stock market of India (Sensex & Nifty) and portfolio investment. Aron, Leape and Thomas, (2010) claimed that literature on portfolio inflows is not available due to poor data availability in developing countries. They also found a positive impact of Portfolio investment on the US stock market index.

Osinubi and Amaghionyeodiwe (2010) claimed that Foreign Portfolio Investment is basically just a change of ownership and may not be a positive investment transfer. This type of investment is mostly in liquid form and for a short time. However, they claimed that Portfolio Investment fills the gap in domestic resources and plays a role in development of the country. Aduda, Masila and Onsongo (2012) claimed that stock markets mobilize domestic resources and attract portfolio investment but did not find a relationship between stock market development and foreign portfolio investment.

Chukwuemeka, Stella, Oduh and Onyema (2012) claimed that there are a number of merits and demerits associated with portfolio investment. However, their results show a long term positive relationship between foreign portfolio investment and market capitalization. They also claimed that before a crisis, there was a lot of movement of portfolio investment from developed to developing countries. Pal, (2006) reported different results and claimed that foreign portfolio investment is not related to the stock market of India and did not boost the stock market of India.

Azeez and Begum (2012) defined remittances as the transfer of cash and monetary items by immigrants to their families in their home country. There are many benefits of remittances like income distribution and improvement in quality of life especially for unskilled poor emigrants. Remittance plays an important role in improving the income level of the family of the emigrants. Bjuggren, Dzansi and Shukur (2010) claimed that workers' remittances are an important investment source especially for developing countries. They found that remittances increase investment.

Aggarwal, Demirguc-Kunt and Martinez-Peria (2006) claimed that remittance plays a vital role in financial sector development and found a significant positive impact of remittances on financial development in developing countries. Acosta, Baerg and Mandelman (2009) claimed that remittances are very important for developing countries. They expect that if the financial system is developed, remittance will be high and may be effectively used for investment.

It is clear from above literature that the role of FDI inflow, foreign portfolio investment and foreign remittance in stock market development has been studied earlier and theoretical and empirical evidences have mixed view and support the idea that there may be positive, negative or no impact of FDI, foreign portfolio investment and foreign remittance in the stock market development. The difference in results is due to different nature of investment, environment, market size and policies of the host country to properly utilize FDI inflow, portfolio investment and worker's remittance. However, majority of literature supports the idea that FDI inflow, portfolio investment and worker's remittance have a positive significant impact on stock market development.

2.3 Explanation of Variables and Hypothesis Formation

2.3.1 Stock Market Development

Stock market development is taken as a dependent variable for which market capitalization of all listed companies is taken as proxy. Chukwuemeka et al. (2012) also used this proxy for stock market development. Market capitalization is calculated by multiplying market prices with total number of shares. If market capitalization increases, indicating growth of stock market and vice versa. The data of market capitalization is taken from the World Bank. The stock market is influenced by many domestic and foreign factors. The major foreign factors include FDI inflow, foreign portfolio investment and foreign remittance. This study exclusively focuses on foreign factors affecting stock market development.

2.3.2 Foreign Direct Investment

FDI inflow is taken as the independent variable. World Bank, (2003) defined FDI inflow "as the flow of capital in terms of equity financing from abroad being not less than 10 percent of the share in a business activity". These capital flows may be intangible assets or financial capital or a combination of both. Foreign direct investment is the main factor influencing stock market development in Pakistan.

H_1: *There is a significant positive impact of Foreign Direct Investment (FDI) on development of stock market.*

2.3.3 Foreign Portfolio Investment

As per World Bank, (2003) definition more than 10 percent investment is called foreign direct investment (FDI). Therefore, less than 10 percent investment is considered as Foreign Portfolio Investment. This is a very important variable as mostly big investors are facilitated and small investors are ignored. It is also observed that stock markets are one of the main targets of Foreign Portfolio Investments. Therefore, Foreign Portfolio Investment is taken as an independent variable and it is anticipated that this will have a positive role in stock market development of Pakistan.

H_2: *There is a significant positive impact of Foreign Portfolio Investment on development of stock market.*

2.3.4 Foreign Remittance

Many South Asian nationals are working abroad and they send their earning to their family. Thus, foreign remittance plays a vital role in economic activities in South Asia. Stock markets also provide an investment platform to those South Asians who are living abroad. Therefore, these remittances also play an important role in stock market development. Foreign remittance is taken as an independent variable and it is anticipated that foreign remittance will have a significant positive impact on the stock market.

H_3: *There is a significant positive impact of Foreign Remittance on development of stock market.*

3. Research Methodology

This paper studies three major countries of South Asia i.e. Pakistan, India and Bangladesh. Secondary data of 24 years from 1988-2011 of all variables under study i.e. market capitalization of all listed companies, foreign portfolio, FDI inflow and foreign remittances are collected from the data bank maintained by the World Bank and analyzed using E-view software. The dependent variable is stock market development (market capitalization) and three independent variables are FDI inflow, foreign portfolio investment and foreign remittance. The stationarity of data is checked through ADF and PP tests. Correlation analysis is used for analyzing the relationship among all the variables under study. Regression analysis is used to test impact of the independent variables (FDI inflow, Portfolio investment and remittance) on the dependent variable (stock market development). The econometrics model can be;

$$\boldsymbol{Cap = C + \beta_1(FDI) + \beta_2(FPI) + \beta_3(FR) + e}$$

Where, Cap = Market capitalization of all listed companies
C = Constant
FDI = Foreign Direct Investment inflow
FPI = Foreign Portfolio Investment
FR = Foreign Remittance
E = Error term

4. Results and Discussion

4.1 Descriptive Statistics

There are a total of 24 observations for Pakistan, 20 observations for India and 23 observations for Bangladesh in this sample. It is evident from below descriptive statistics that market capitalization of India is very high as compared to Pakistan and Bangladesh due to huge market of India. Pakistan is on second number in term of market capitalization of all listed companies. Foreign Portfolio Investment (FPI) for all three countries has negative minimum value due to outflow of investment in some years. Mean value of Foreign Portfolio Investment (FPI) for Bangladesh is negative which means that outflow is more than inflow. The detailed descriptive statistics are reported in table 1.

Table1: Descriptive Statistics

Country	Var	Obs	Mean	Std. Deviation	Minimum	Maximum
Pakistan	CAP	24	18,600.00	70,300.00	2,460.00	17,600.00
	FDI	24	1,320.00	5,590.00	186.00	1,600.00
	FPI	24	229.00	1,280.00	(270.00)	425.00
	FR	24	3,590.00	12,200.00	996.00	3,080.00
India	CAP	20	435,000.00	1,820,000.00	47,700.00	530,000.00
	FDI	20	9,880.00	43,400.00	73.54	12,900.00
	FPI	20	6,770.00	32,900.00	(15,000.00)	11,200.00
	FR	20	19,000.00	53,000.00	2,890.00	16,000.00
Bangladesh	CAP	23	3,790.00	23,500.00	269.00	5,560.00
	FDI	23	318.00	1,010.00	0.25	353.00
	FPI	23	(1.08)	153.00	(153.00)	58.77
	FR	23	3,700.00	12,100.00	758.00	3,590.00

4.2 Unit Root Test

It is often observed that time series data has many problems e.g. non-stationary data in levels which may lead to spurious results. The stationarity or non stationarity of a data series can strongly influence its behaviour and properties. Therefore, to avoid these problems, the stationarity of data is checked through ADF and PP test. PP test is stronger test than ADF for checking unit root non stationarity of data. The tests basic methodology is same but it also includes correction for auto correlated residuals in Dicky Fuller test. The results of ADF and PP test for all variable show that null hypothesis i.e. time series of data have a unit root at a level of significance of 5% (as p-values is higher than 5%) cannot be rejected at level except for foreign portfolio investment in Pakistan and Bangladesh only. However, at first difference, the data is stationary for all variables except foreign remittance in Pakistan and FDI in India. However, for Bangladesh, at first difference, the data is non stationary for all variables except foreign portfolio

investment. It is cleared from results that data is stationary at different levels. The detailed results are reported in table 2.

Table2: Unit Root Test

		ADF Test		PP-Test	
Country		**Level**	**First Difference**	**Level**	**First Difference**
Pakistan	CAP	-1.785559	-6.708***	-1.623177	-6.708079***
	FDI	-2.212153	-4.096894***	-1.732960	-2.924237**
	FPI	-3.798432***	-5.082503***	-3.761288***	-13.00252***
	FR	4.323054	-1.743312	4.575448	-1.743312
India	CAP	0.587772	-6.304970***	-1.563199	-11.98908***
	FDI	4.029823	-0.113962	-0.349742	-4.266338***
	FPI	-0.964256	-9.874495***	-5.082240***	-15.41385***
	FR	3.463609	-3.372710**	2.809733	-3.339266**
Bangladesh	CAP	3.747418	-1.977684	14.16971	-1.840444
	FDI	-0.729757	-2.548247	-0.729757	-6.192940***
	FPI	-4.480004***	-6.356272***	-5.370169***	-14.37834***
	FR	3.413211	2.793546	3.762674	-1.816237

*, ** and ***MacKinnon approximate p-value for Z (t) = 10%, 5% and 1% sig. level

4.3 Correlation Analysis

Correlation shows the strength of relationship between two variables. When two variables are correlated, it means that they vary together. A correlation of more than 0.5 will be an acceptable level of the relationship between two variables (Samontaray, 2010). Correlation among stock market, foreign portfolio investment, FDI inflow and foreign remittance is tested through correlation analysis. However, it is also important to know that correlation analysis may not explain cause and effect relationship rather it shows simple relationship of two variables. The detailed correlation analysis is reported in table 3.

Table 3: Correlation Results

Country	**Variable**	**KSE**	**FDI**	**PI**	**REM**
Pakistan	Market Capitalization	1.000000			
	Foreign Direct Investment	0.809945	1.000000		
	Portfolio Investment	0.584460	0.417658	1.000000	
	Remittance	0.675547	0.560995	0.076319	1.000000
India	Market Capitalization	1.000000			
	Foreign Direct Investment	0.774760	1.000000		
	Portfolio Investment	0.822988	0.347298	1.000000	
	Remittance	0.854637	0.944688	0.527551	1.000000
Bangladesh	Market Capitalization	1.000000			
	Foreign Direct Investment	0.693354	1.000000		
	Portfolio Investment	-0.105912	-0.050832	1.000000	
	Remittance	0.872779	0.896498	-0.182610	1.000000

Results for Pakistan show that stock market development is 80.99%, 58.44% and 67.55% correlated with FDI inflow, Portfolio Investment and foreign remittance respectively. This indicates a strong correlation among all these variables. It is also evident that FDI inflow is strongly correlated with the stock market development followed by foreign remittance and Portfolio management. The correlation results for India show that stock market development is

correlated 77.47%, 82.29% and 85.46% with FDI inflow, Portfolio Investment and foreign remittance respectively. This indicates a strong correlation among all these variables. It is also evident that portfolio investment is strongly correlated with the stock market development followed by foreign remittance and FDI inflow. However, Bangladesh's results are contradictory and show a negative correlation of 10.59 % between stock market development and Portfolio Investment while FDI inflow and foreign remittance have positive correlation of 69.33% and 87.27% respectively. The negative relationship is due to fact that portfolio investment outflow is more than inflow. Correlation between the dependent variable (i.e. stock market development) and between independent variables (i.e., FDI inflow, foreign remittance and foreign portfolio investment) is less than 0.90, which indicates that data is not affected by serious co linearity problems (Hair, Anderson, Tatham, and Black, 1998).

4.4 Co-integration Test Results

Table 4 shows the results of Co-integration test. The dependent variable is the stock market development which is measured through market capitalization of all listed companies and the annual secondary data is taken from 1988-2011 along with three independent variables of foreign portfolio investment, FDI inflow and foreign remittance. It is important to mention that there are two criteria to test in the Johansen testing i.e. the maximum eigen value statistic and the trace statistics. The summary of trace statistics in table 4 shows that there is co-integration of order one in time series data for Pakistan and India and for Bangladesh, there is co-integration of order three in time series data. As the p-value is less than 5% which means that null hypothesis i.e. there is no co-integration in time series can be rejected. Therefore, it can be concluded that co-integration exist in data for all three countries of south Asia i.e. Pakistan, India and Bangladesh. The detailed results are reported in table 4.

Table 4: Unrestricted Co-integration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigen value	Trace Statistic	0.05 Critical Value	Prob.**	Remark
Pakistan					
None *	0.667790	49.83371	47.85613	0.0322	Trace test indicates 1 cointegrating eqn(s) at the 0.05 level
At most 1	0.483798	25.58997	29.79707	0.1414	
At most 2	0.293170	11.04230	15.49471	0.2089	
At most 3	0.143548	3.409066	3.841466	0.0648	
Bangladesh					
None *	0.929137	106.5059	47.85613	0.0000	Trace test indicates 3 cointegrating eqn(s) at the 0.05 level
At most 1 *	0.779555	50.91864	29.79707	0.0001	
At most 2 *	0.575079	19.16444	15.49471	0.0133	
At most 3	0.055160	1.191526	3.841466	0.2750	
India					
None *	0.925715	74.45404	47.85613	0.0000	Trace test indicates 1 cointegrating eqn(s) at the 0.05 level
At most 1	0.584698	27.65670	29.79707	0.0866	
At most 2	0.404314	11.83922	15.49471	0.1648	
At most 3	0.130375	2.514471	3.841466	0.1128	

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

The summary of Maximum Eigen value statistics in table 5 shows that there is no co-integration in time series data for Pakistan. For Bangladesh, there is co-integration of order three in time series data. For India, there is co-integration of order three in time series data. As the p-value is less than 5% for India and Bangladesh which means that null hypothesis i.e. there is no co-integration in time series can be rejected. Therefore, it can be concluded that co-integration exist in data for India and Bangladesh and no co-integration in Pakistan. The detailed results are reported in table 5.

Table 5: Unrestricted Co-integration Rank Test (Maximum Eigen value)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**	Remark
Pakistan					
None	0.667790	24.24373	27.58434	0.1265	Max-eigen value test indicates no co-integration at the 0.05 level
At most 1	0.483798	14.54767	21.13162	0.3219	
At most 2	0.293170	7.633238	14.26460	0.4172	
At most 3	0.143548	3.409066	3.841466	0.0648	
Bangladesh					
None *	0.929137	55.58724	27.58434	0.0000	Max-eigen-value test indicates 3 co-integrating eqn(s) at the 0.05 level
At most 1 *	0.779555	31.75420	21.13162	0.0011	
At most 2 *	0.575079	17.97291	14.26460	0.0124	
At most 3	0.055160	1.191526	3.841466	0.2750	
India					
None *	0.925715	46.79734	27.58434	0.0001	Trace test indicates 1 cointegrating eqn(s) at the 0.05 level
At most 1	0.584698	15.81748	21.13162	0.2357	
At most 2	0.404314	9.324745	14.26460	0.2601	
At most 3	0.130375	2.514471	3.841466	0.1128	

* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

4.4 Pair wise Granger Causality Tests Results

The Granger causality test is a test for making decision whether one time series is useful in forecasting another. The Granger Causality Tests results show that FDI does not granger cause capitalization for Pakistan and Bangladesh, however, for India FDI granger cause capitalization. Capitalization granger cause FDI in Pakistan and India while does not granger cause in Bangladesh. Portfolio investment granger causes in Pakistan and India only while Capitalization granger causes portfolio investment only in India. Foreign remittance granger causes capitalization for Bangladesh and India while Capitalization granger causes foreign remittance in Bangladesh. Portfolio investment only granger cause FDI in Pakistan only while FDI granger cause portfolio investment in Bangladesh. Foreign remittance granger causes FDI in India only while FDI granger causes foreign remittance only in Bangladesh only. Foreign remittance

granger causes portfolio investment in India only while portfolio investment granger causes foreign remittance in Bangladesh and India only. The detailed results are reported in Table 6.

Table 6: Pair wise Granger Causality Tests

Null Hypothesis	Pakistan		Bangladesh		India	
	F-Statistic	Prob.	F-Statistic	Prob.	F-Statistic	Prob.
FDI does not Granger Cause CAP	1.54091	0.2427	2.49901	0.1118	6.35606	0.0087
CAP does not Granger Cause FDI	13.4586	0.0003	0.23639	0.7920	78.5241	3.E-09
PI does not Granger Cause CAP	3.27497	0.0626	0.48631	0.6237	0.88376	0.4351
CAP does not Granger Cause PI	0.57122	0.5753	1.46473	0.2605	3.37415	0.0637
REM does not Granger Cause CAP	0.48402	0.6245	16.1618	0.0001	3.73423	0.0467
CAP does not Granger Cause REM	0.39531	0.6795	2.41667	0.1192	12.8723	0.0005
PI does not Granger Cause FDI	3.21290	0.0655	0.35108	0.7092	44.5999	8.E-07
FDI does not Granger Cause PI	0.75077	0.4870	0.65311	0.5338	6.27781	0.0113
REM does not Granger Cause FDI	0.81285	0.4601	0.16737	0.8473	3.66521	0.0489
FDI does not Granger Cause REM	0.29146	0.7508	2.91390	0.0816	0.32855	0.7247
REM does not Granger Cause PI	0.27582	0.7623	0.87399	0.4363	7.67282	0.0063
PI does not Granger Cause REM	0.02405	0.9763	10.0908	0.0015	10.1941	0.0022

5. Conclusion

This paper analyzes the role of FDI inflow, foreign portfolio investment and foreign remittance in stock market development of Pakistan, India and Bangladesh by using annual data from 1988-2011. The stock market development is taken as a dependent variable and the three independent variables are FDI inflow, foreign portfolio investment and foreign remittance. For relationship testing, correlation analysis among these four variables i.e. FDI inflow, foreign portfolio investment, foreign remittance and stock market development is used. The Pakistan's results show that stock market development is 80.99%, 58.44% and 67.55% correlated with FDI inflow, Portfolio Investment and foreign remittance respectively. The India's results show that stock market development is correlated 77.47%, 82.29% and 85.46% with FDI inflow, Portfolio Investment and foreign remittance respectively. However, Bangladesh's result contradicts and show negative correlation of 10.59 % between stock market development and Portfolio Investment while FDI inflow and foreign remittance have positive correlation of 69.33% and 87.27% respectively.

The summary of trace statistics in table 4 shows that there is co-integration of order one in time series data for Pakistan and India and for Bangladesh, there is co-integration of order three in time series data. As the p-value is less than 5% which means that null hypothesis i.e. there is no co-integration in time series can be rejected. Therefore, it can be concluded that co-integration exist in data for all three countries of south Asia i.e. Pakistan, India and Bangladesh. The summary of Maximum Eigen value statistics in table 5 shows that there is no co-integration in time series data for Pakistan. For Bangladesh, there is co-integration of order three in time

series data. For India, there is co-integration of order three in time series data. Therefore, it can be concluded that co-integration exist in data for India and Bangladesh and no co-integration in Pakistan.

The Granger Causality Tests results show that FDI does not granger cause capitalization for Pakistan and Bangladesh, however, for India FDI granger cause capitalization. Capitalization granger cause FDI in Pakistan and India while does not granger cause in Bangladesh. Portfolio investment granger causes in Pakistan and India only while Capitalization granger causes portfolio investment only in India. Foreign remittance granger causes capitalization for Bangladesh and India while Capitalization granger causes foreign remittance in Bangladesh. Portfolio investment only granger cause FDI in Pakistan only while FDI granger cause portfolio investment in Bangladesh. Foreign remittance granger causes FDI in India only while FDI granger causes foreign remittance only in Bangladesh only. Foreign remittance granger causes portfolio investment in India only while portfolio investment granger causes foreign remittance in Bangladesh and India only.

The results are important for policy makers and government officials. This study is one of the important studies who simultaneously studies three major South Asian countries i.e. Pakistan, India and Bangladesh. The variations in results are also important and will help in understanding the difference in investment environment. The correlations result show that all variables are highly correlated in Pakistan and India while, Bangladesh's result contradicts and show negative correlation of 10.59 % between stock market development and Portfolio Investment.

6. Suggestions and recommendations

- The stock market is considered as the economic face of any country; therefore, it is important to know casual relationship and determinants of stock market development.
- This study will help to understand different investment environment in the three south Asian countries i.e. Pakistan, India and Bangladesh. The analysis of variations in investment environment will help to wisely invest in respective country.
- FDI inflow should be encouraged to develop stock market and economy as well.
- In Bangladesh, foreign portfolio should be encouraged, as it shows negative mean. The foreign portfolio investment will help to develop stock market directly.
- In Pakistan and India, FDI inflow, foreign portfolio investment and foreign remittance is positively correlated with stock market development, therefore, these should be encouraged and these will positively effect stock market development.
- The stock market development itself is an indication of good economic conditions of country, so fair and transparent stock market will al attract FDI, foreign portfolio investment and foreign remittance.

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